

# FRESNO, CALIFORNIA

## CLASS SPECIFICATION

### INSTRUMENTATION SPECIALIST

**FLSA STATUS:**

Non-Exempt

**CLASS SUMMARY:**

The Instrumentation Specialist is the second level in a two level Utilities Instrumentation series. Incumbents are responsible for performing skilled installation, alteration, maintenance, repair, and calibration of a variety of process instrumentation equipment utilized in Water or Wastewater Treatment facilities.

The Instrumentation Specialist is distinguished from the Instrumentation Technician by its responsibility for performing journey level process instrumentation activities.

**TYPICAL CLASS ESSENTIAL DUTIES:** (These duties are a representative sample; position assignments may vary.)

**FRE-  
QUENCY**

1.	Troubleshoots, calibrates, and repairs process control instrumentation which may include: analog, digital, and pneumatic instrumentation, pressure and temperature instruments, various flow meters, dissolved oxygen, suspended solids, conductivity pH/ORP, level transmitters, turbidity meters, chlorine and nitrate analyzers, chemical injection equipment, gas pressure flow and detection, and other related equipment.	Daily 50%
2.	Lays out, installs, aligns, and places into service new metering and recording devices, calibrating as required; may extend or connect to related electrical circuits such as 4-20 mA and 120 volt AC/DC.	Weekly 20 - 30%
3.	Reads and interprets wiring diagrams, mechanical and PID drawings, manuals, and specifications before and while installing or performing major repair work.	Daily 20%
4.	Configures process and instrumentation diagrams, control loop parameters and discrete logic for programmable logic controllers and distributed control systems.	Weekly 40%
5.	Uses and maintains a wide variety of hand and power tools and bench test equipment related to instrument installation, maintenance, and repair.	Daily 80%
6.	Prepares and maintains accurate and complete records and reports to comply with State and EPA requirements; prepares purchase requisitions for the procurement of process control instrumentation and related equipment.	Daily 30 - 40%
7.	Documents and draws process control circuits, loop drawings, and PID diagrams.	Weekly 5%

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8.	Documents procedures and readings of process control instrumentation and related equipment such as recording calibration data or sketching schematics of previously or newly installed pneumatic and /or electronic metering or control loops.	Weekly 10%
9.	Conducts periodic preventative maintenance inspections of all process control instruments, diagnosing existing or potential problems; cleans, lubricates, calibrates, and adjusts as conditions warrant.	Weekly 50 – 75%
10.	Makes recommendations for improvements to instrumentation systems.	Monthly 5%
11.	Installing, configuring, and troubleshooting of communications and telemetry systems, analog/digital/fiber optic and related equipment.	Weekly 5 – 10%
12.	Performs other duties of a similar nature or level	As Required

**Training and Experience** (positions in this class typically require):

- One year of experience as a Instrumentation Technician with the City of Fresno or two years of experience as a journey instrumentation technician, or three years of related experience in the application of pneumatic and electronic technical skills installing and/or maintaining process control instrumentation is required;
- OR
- An equivalent combination of education and experience sufficient to successfully perform the essential duties of the job such as those listed above.

**Licensing Requirements** (positions in this class typically require):

- Basic Class C License

**Certification Requirements will vary depending upon assignment:**

- Water Distribution Grade II or Water Treatment Grade II Certificate
- California Water Environment Association Grade II Electrical /Instrumentation Technologist Certification

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#### **Knowledge** (position requirements at entry):

Knowledge of:

- Methods, practices and equipment used in the maintenance, repair, testing, and adjusting of a variety of process control and monitoring instruments;
- Applicable Federal, State and Local laws, codes, ordinances, policies, procedures, rules and regulations;
- Safety practices and procedures pertaining to process instrumentation equipment and water/wastewater treatment facilities including confined space procedures, lockout/tagout and hazardous environments;
- Programmable logic controllers;
- Applicable computer software packages.

#### **Skills** (position requirements at entry):

Skill in:

- Interpreting and applying applicable laws, codes, and ordinances associated with process instrumentation equipment, water/wastewater treatment, and power generation facilities
- Maintaining and preparing accurate documentation regarding instrument repair work
- Maintaining and implementing on-going preventative maintenance for instrumentation
- Diagnosing mechanical, hydraulic, pneumatic, electrical, and electronic malfunctions in instrumentation, programmable logic controllers, and telemetry systems
- Implementing or performing routine repairs, installations of water system equipment
- Estimating time, materials, tools, and equipment requirements for jobs
- Using and maintaining applicable tools, equipment, vehicles, and hardware and software related to job duties
- Preparing, analyzing, and maintaining operational records
- Communication, interpersonal skills as applied to interaction with coworkers, supervisor, the general public, business, organizations, elected and appointed officials, media, etc. sufficient to exchange or convey information, give/receive work direction

#### **Physical Requirements:**

Positions in this class typically require: feeling, finger dexterity, grasping, hearing, repetitive motions, seeing, talking, bending, kneeling, lifting, reaching, standing, stooping, walking, balancing, climbing, crawling, crouching, pulling and pushing.

Medium Work: Exerting up to 50 pounds of force occasionally, and/or up to 20 pounds of force frequently, and/or up to 10 pounds of force constantly to move objects.

Incumbents may be subjected to moving mechanical parts, electrical hazards, vibrations, fumes, odors, dusts, poor ventilation, adverse weather conditions, environmental hazards, gasses, chemicals and oils.

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**Note:**

The above job specification is intended to represent only the key areas of responsibilities; specific position assignments will vary depending on the business needs of the department.

**Classification History:**

Draft prepared by Fox Lawson & Associates (LM)

Date: 12/2007

Reviewed by the City of Fresno

Date: 5/2008